

## LA-UR-18-23072

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Title: Comments Relative to My LA Medal Award

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Intended for: Talk at LANL internal meeting

Issued: 2018-04-11

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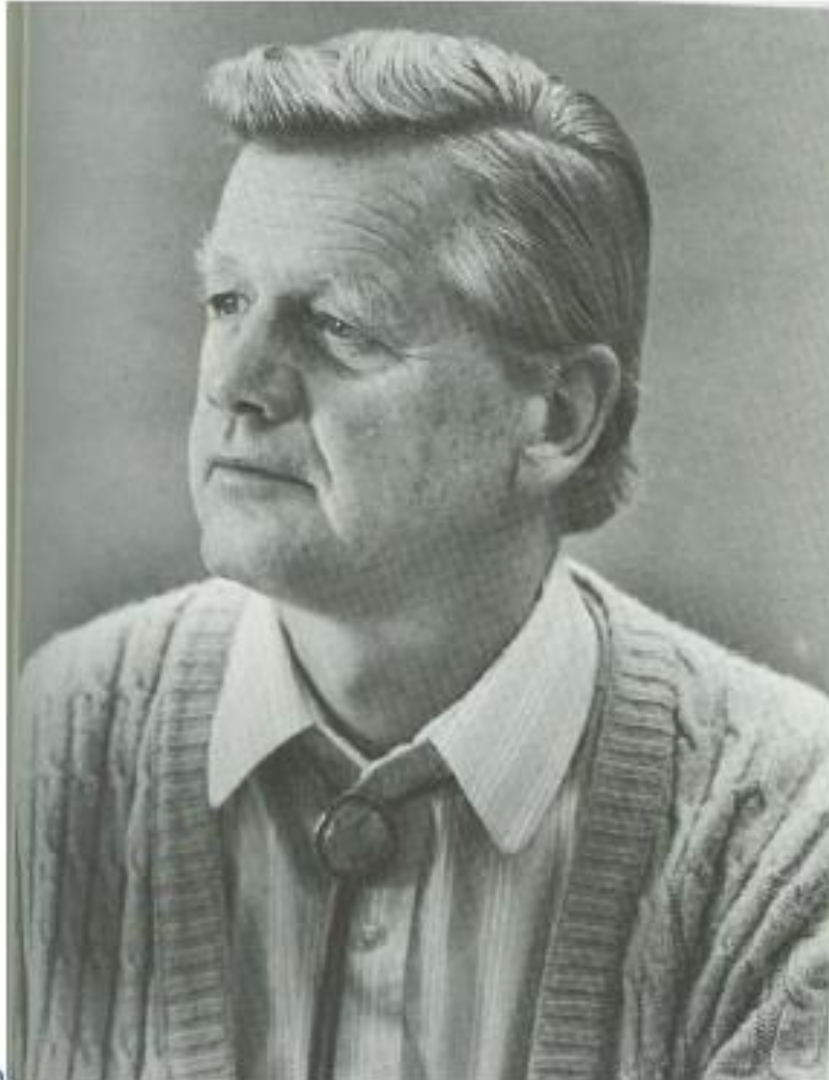
# *Comments Relative to My LA Medal Award*

*LA Medal Ceremony*

*April 12, 2018*

*H. O. Menlove*

# *Share Award with Two Parties*



**Bob Keepin**

Founded the LANL  
Safeguards Program  
on his return from  
the IAEA in 1966

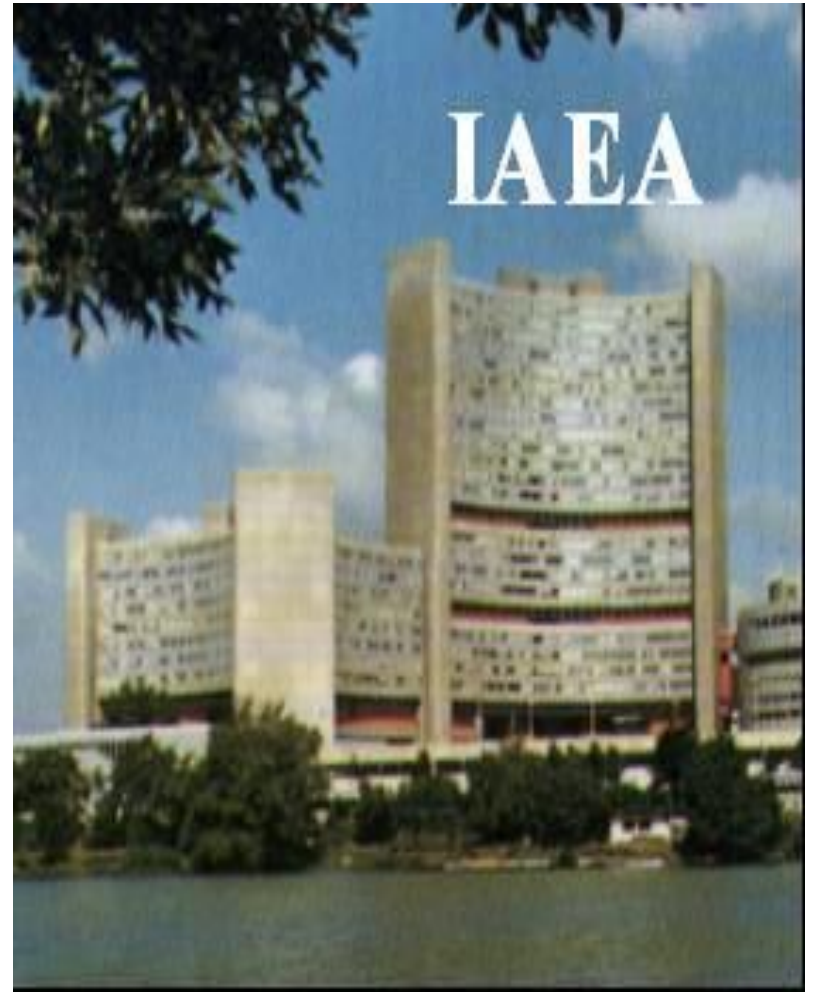
*Bob took a change of station from LASL  
to be the IAEA Physics Division Director  
in 1963-66 where he became friends  
With the IAEA DG Sigvard Ecklund and  
he also saw the need for safeguards  
technical support*

## *My Fateful Fulbright Award in 1966 to Karlsruhe*

**My Interview behind Grand Hotel  
On the Vienna Ring Strasse in 1967**



**VIC IAEA Headquarters Today**



*Ye Bob, I believe*



## Keepin's Deck Overlooking WR Canyon

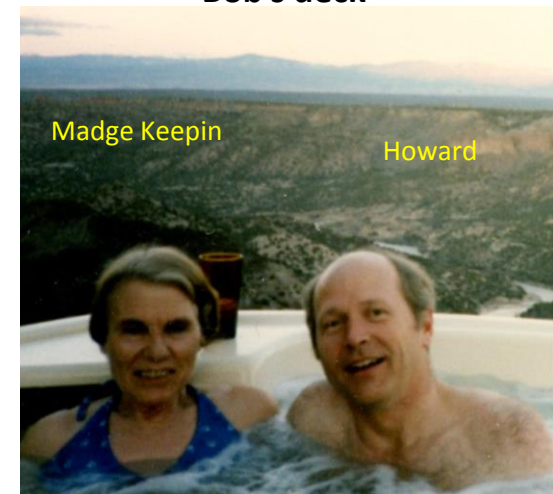
Bob's Office



SSAC School Banquet at Keepin's House

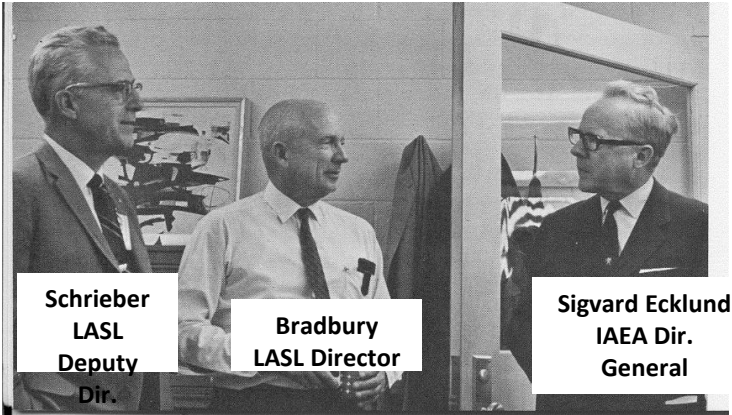


Bob's deck



# Bradbury's Support

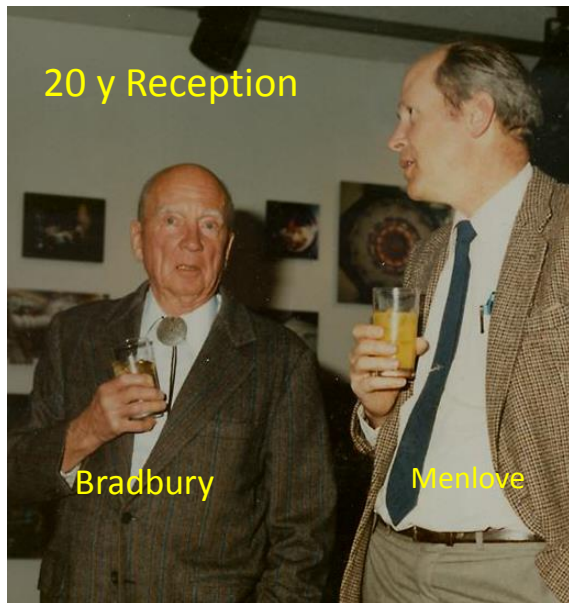
## YEAR 1



## Bradbury's Nuclear Nonproliferation Support Factors

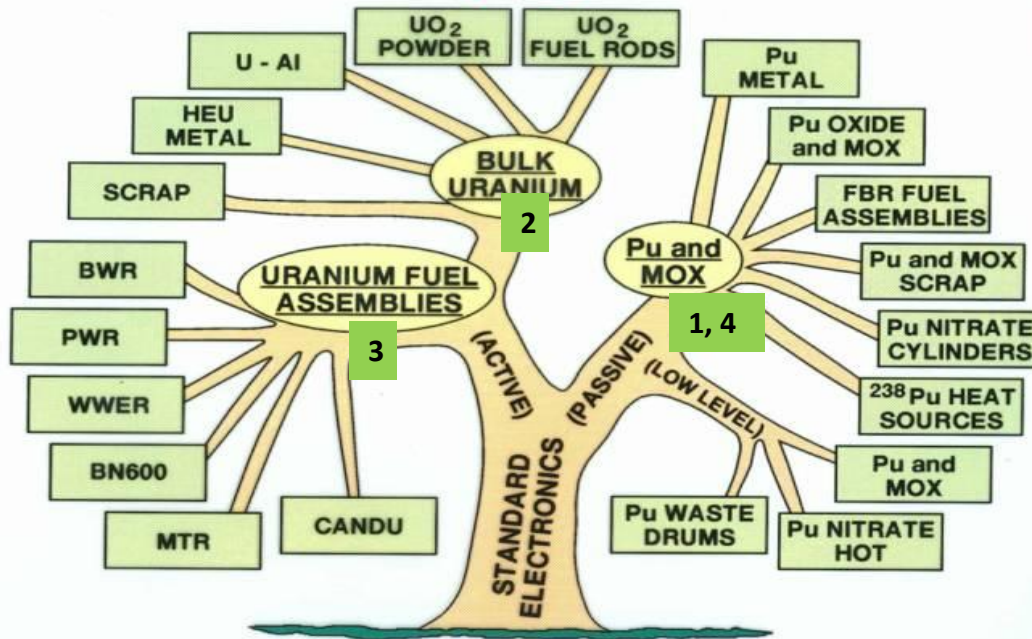
- Pressure to hold the Lab together after the end of war  
**removed**
- Pressure to meet bomb production numbers  
**removed**
- Personal goal to prevent future nuclear proliferation  
**increased**
- Keepin's Proposal and IAEA personal connections to DC  
**a Godsend**
- Bradbury supplied funding to establish the new Group  
**(N-6)**

## YEAR 20



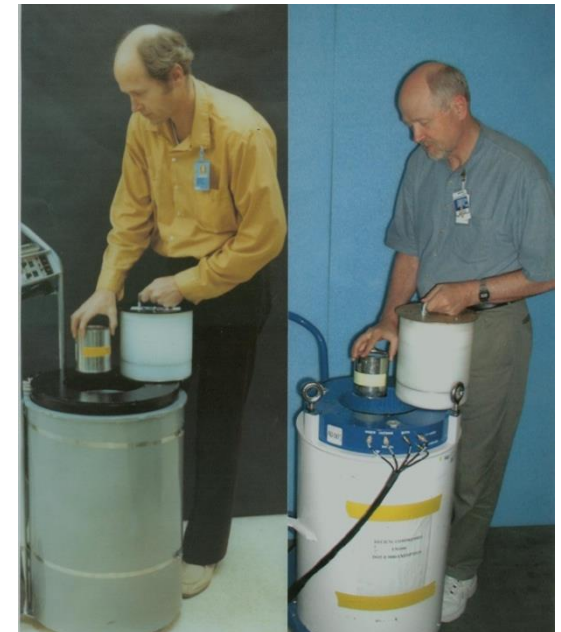


## Neutron Assay Applications Tree



## MY FIRST 25 YEARS

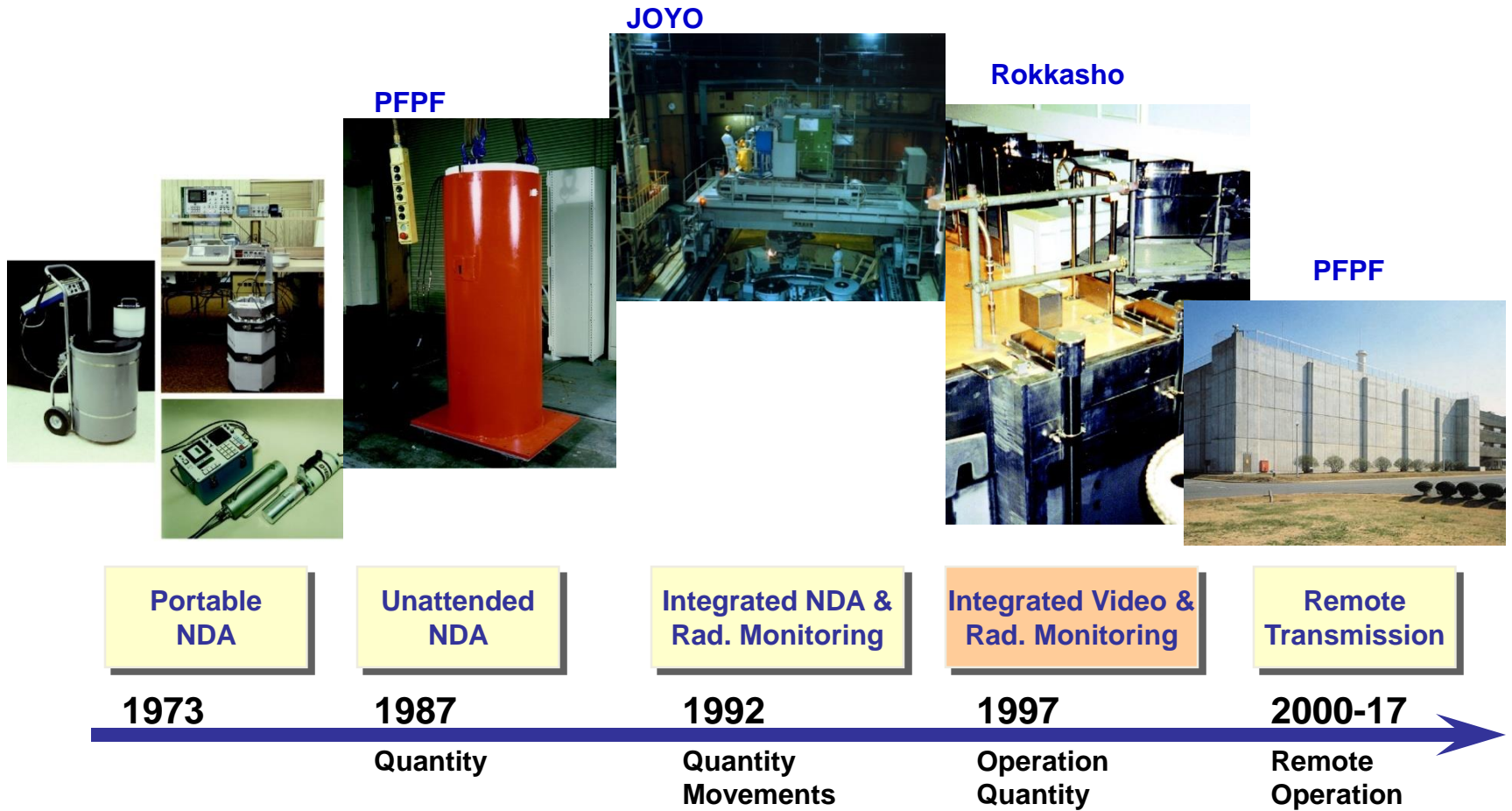
- Portable (sort of)
- Attended mode



AWCC testing      25 years later

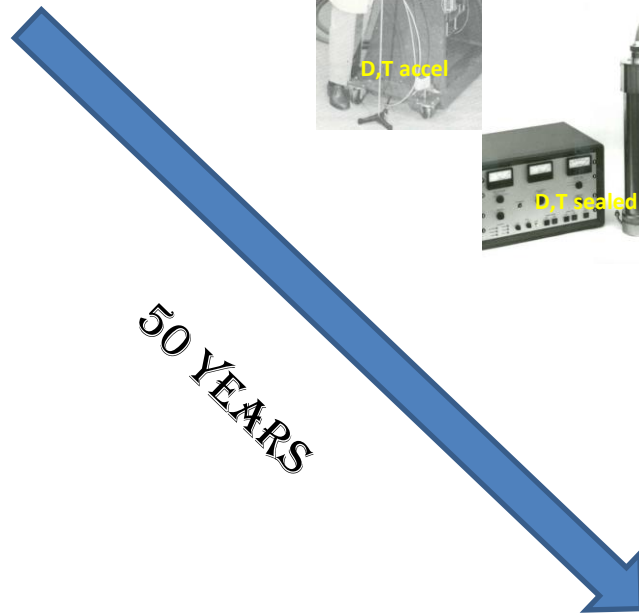
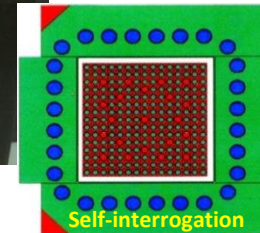
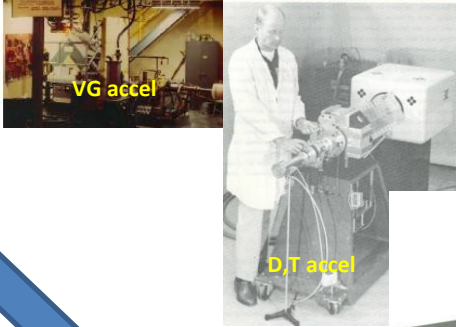
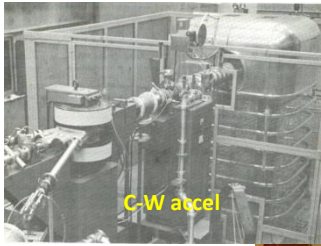


*Evolution of  
NDA and Remote Monitoring  
(Training is a Continuing Requirement)*



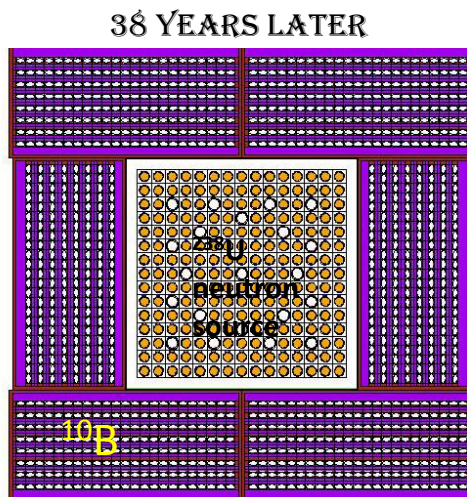
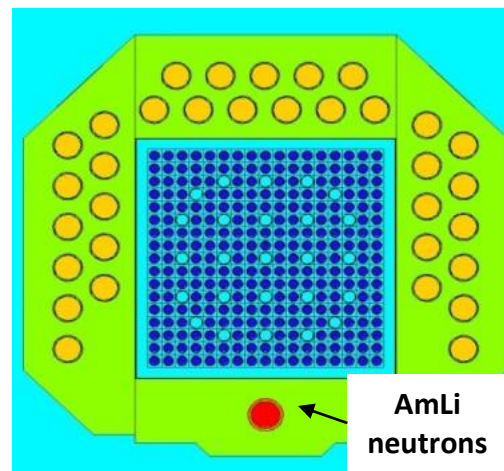
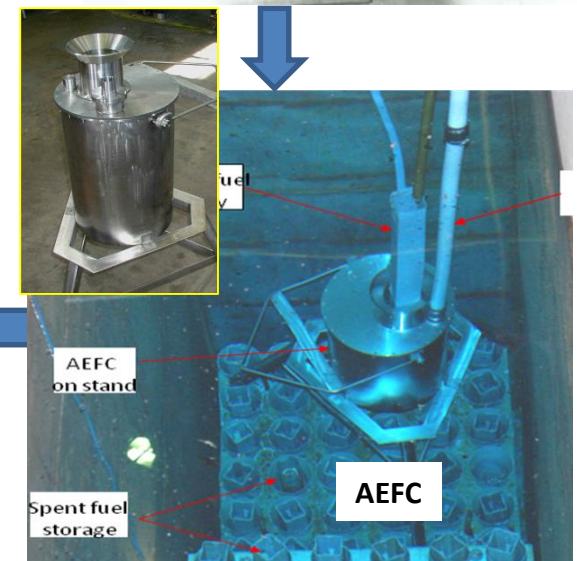
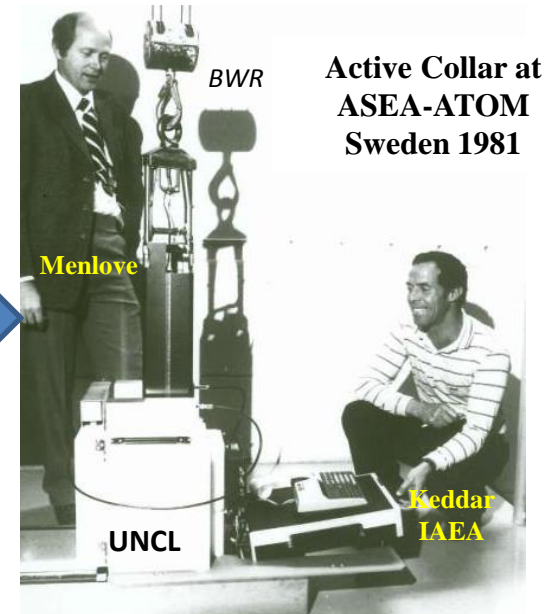
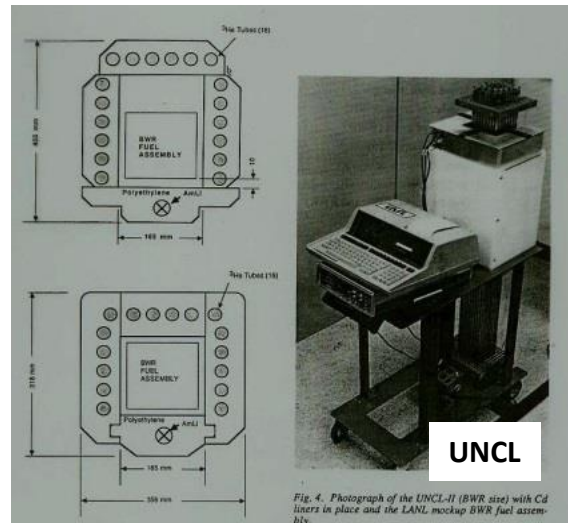
**4 DECADES OF PROGRESS**

# U-235 ACTIVE ASSAY THE FLOW TOWARDS SIMPLICITY DURING 50 YEARS (but more complex physics)



# Evolution vs. Revolution !

( $^{235}\text{U}$  fuel assembly measurements)



Passive neutron interrogation  
B-10 neutron detector

Fast-neutron  
Collar He-3



# POST RETIREMENT QUESTION

(2005)

**Mentoring?**

**or**

**Fishing?**

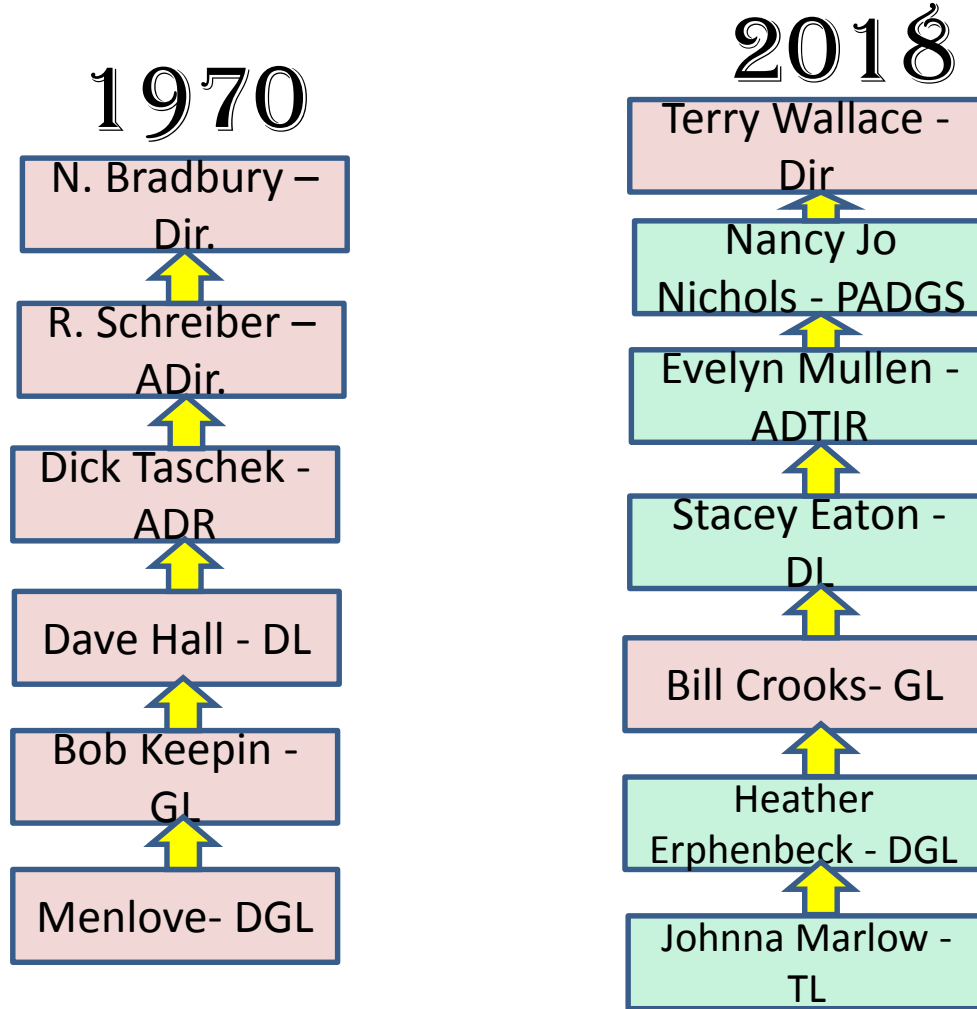


All the ladies are PhD Nuclear Engineers or Physicists

**DEVELOPING THE  
FUTURE**



# My Line Management

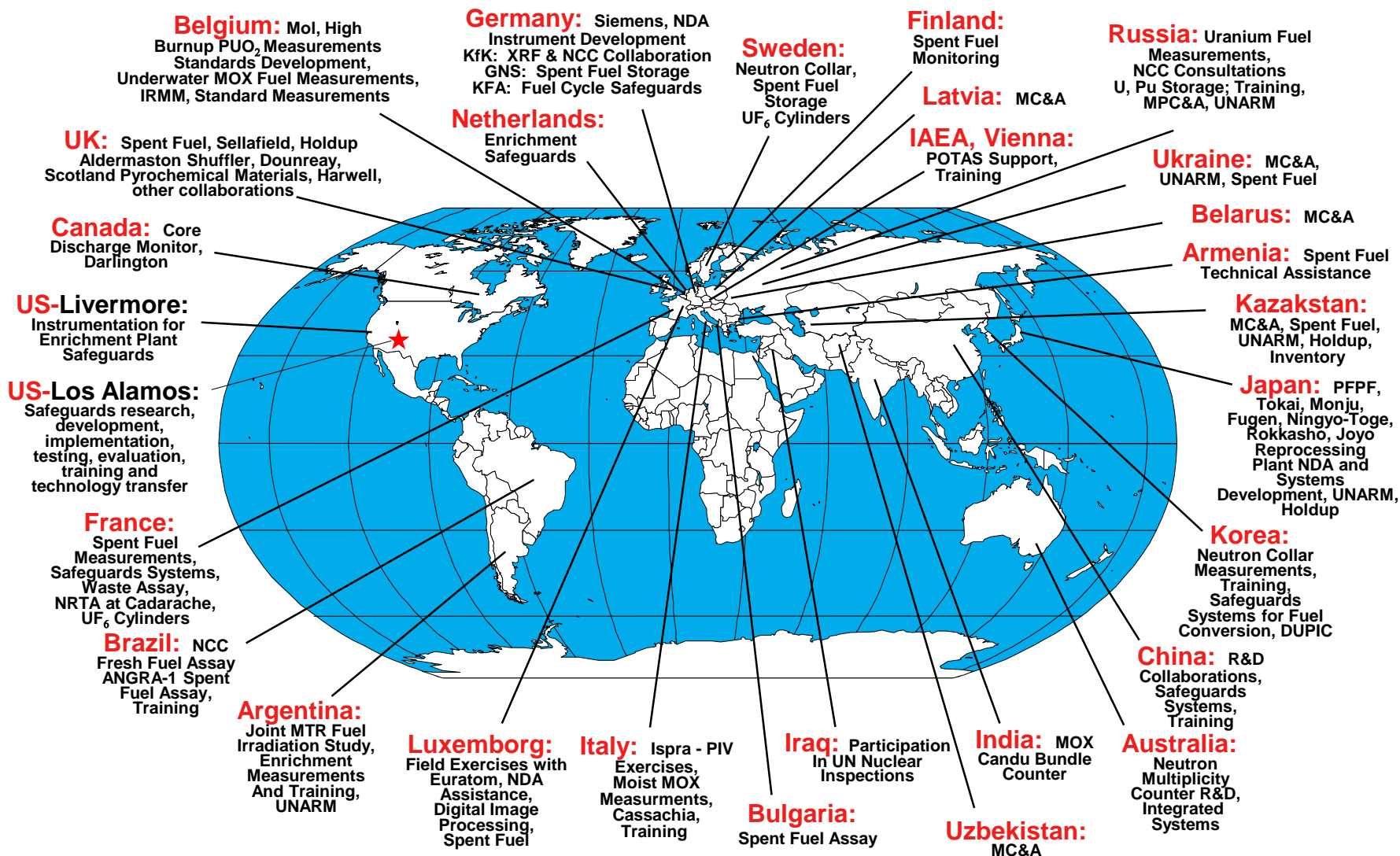


An A+ for LANL's Nuclear Safeguards and Nonproliferation diversity progress

*Sexist Remark - Females are intrinsically more people sensitive than males (50 years of data)*



# International Safeguards Activities



**Los Alamos**

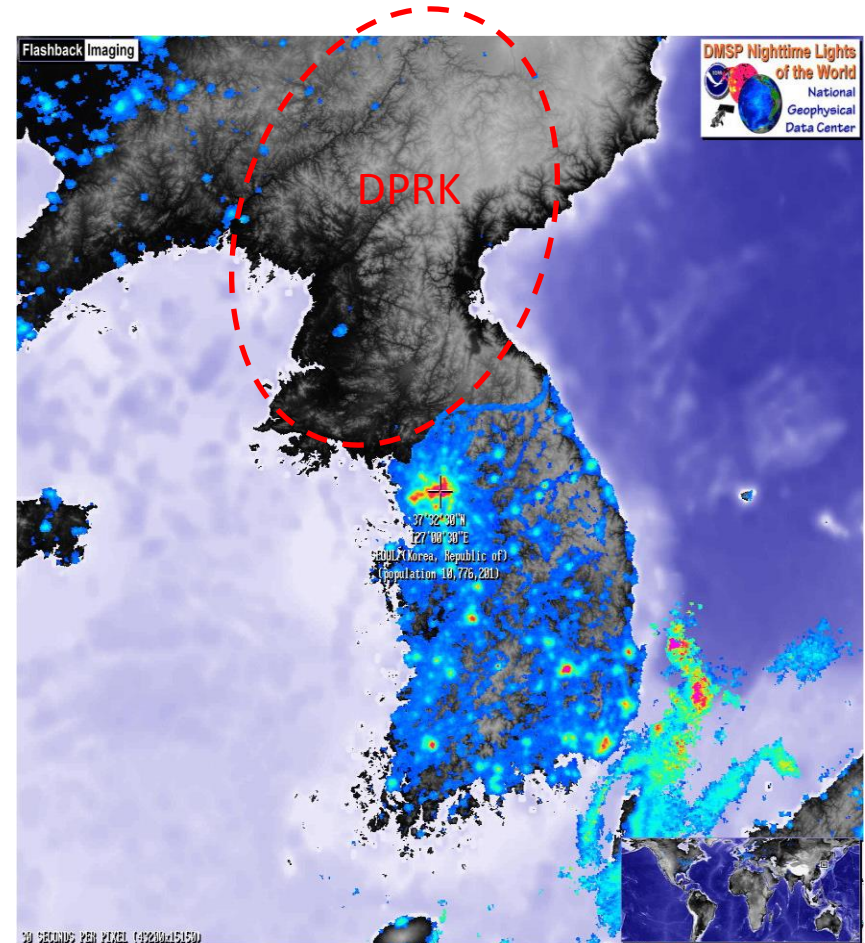
Los Alamos National Laboratory, Nuclear Safeguards Research and Development

November 15, 2003

# *1992- 2018 Technical Support* Resolving North Korea's SNM Questions



Verification Team Training  
For DPRK



"Defense Meteorological Satellite Program (DMSP) Nighttime Lights of the World." NOAA. 12 Aug 2000.

## *Key LANL Factors for LA Medal Award*

- ✓ *Allowing risk taking without penalties for failure*
- ✓ *Putting people ahead of technology*
- ✓ *Most new inovations come from the bottom up vs the top down*  
*However, funding comes from the top down (need flexibility)*
- ✓ *My 30 y of Japan reimbursible funding allowed for trying new solutions to many NDA targets with a short turnaround*
- ✓ **My Los Alamos Fellows Position** was essential for my past 35 years of persuing my passion - experimental evaluation of inovative NDA approaches.



# Concluding Remarks

- *My thanks to the several hundred retirees and NEN staff members who's work made this award possible*
- *The **nonproliferation goal** for the staff working in safeguards has always been a strong motivation factor*
- *The nuclear weapons component at LANL makes the Lab more relevant to future proliferation problems with **adversarial states***
- ***Keepin's original vision of making the world a safer place is still valid!***

*Thank You*